

WHAT IS CLAIMED IS:

1. A process for preserving the quality of peeled ripe kiwifruit or peeled ripe kiwifruit pieces during storage comprising:

5 (a) treating whole, unpeeled, fresh, ripe, kiwifruit with nitrogen or inert gas to inhibit quality deterioration of pericarp tissue of the ripe kiwifruit;

(b) peeling the whole, unpeeled, fresh, ripe kiwifruit; and if necessary cutting it;

10 (c) packaging the peeled, whole kiwifruit or peeled kiwifruit cut into pieces in a modified atmosphere package containing a modified atmosphere of between 5% and 15% of oxygen and between 2 and 10% carbon dioxide.

15 2. A process as claimed in claim 1 wherein the ripe unpeeled kiwifruit is treated with nitrogen gas for a period between 1 and 5 days.

3. A process as claimed in claim 1 wherein the ripe unpeeled kiwifruit is treated at a temperature between 0 and 6°C.

20 4. A process as claimed in claim 1 wherein the headspace above the unpeeled kiwifruit consists of nitrogen of 98 to about 100% purity.

25 5. A process as claimed in claim 1 wherein the initial modified atmosphere is between 8 and 12% oxygen and between 3 and 5% carbon dioxide.

6. A process for preserving ripe kiwifruit comprising:

(a) cooling whole, ripe kiwifruit to a temperature of between 0 and 6°C;

(b) treating the whole, ripe kiwifruit in a closed container with a gas atmosphere containing 98 to about 100% nitrogen;

30 (c) peeling the nitrogen treated ripe kiwifruit with sharp blades;

(d) placing the peeled ripe whole kiwifruit or cut kiwifruit pieces in a package and introducing a modified atmosphere gas mixture into the headspace of the package containing the peeled whole kiwifruit or peeled kiwifruit cut into pieces;

35 (e) quick-chilling and storing the packaged ripe kiwifruit at a temperature between 0 and 6°.

7. A process as claimed in claim 6 wherein the nitrogen gas treatment of whole kiwifruit is conducted with:

- (a) a continuous flow of nitrogen gas into the headspace of the closed container for a period of 1 to 5 days at 0 to 6°C; or
- 5 (b) a nitrogen gas flush of the headspace of the closed container to provide a static nitrogen gas headspace at 1 to 6°C for 1 to 5 days.

8. A process as claimed in claim 6 wherein the package for holding the peeled ripe kiwifruit or kiwifruit pieces has semi-rigid walls with high gas barrier properties.

10 9. A process as claimed in claim 8 wherein the package has a top web plastic film with an oxygen gas transmission value of between 3000 and 4500 cu. cm per sq. in. per 24 hours @ 25°C at 1 atm.

15 10. A process as claimed in claim 9 wherein the gas mixture flush introduced into the headspace of the ripe kiwifruit-containing package has an O₂ content of between 5 and 15% and a CO₂ content of between 2 to 10%.

20 11. A process as claimed in claim 10 wherein the gas mixture has an O₂ content of between 8 to 12% and a CO₂ content of between 3 to 5%.

12. A process of preserving the quality of ripe peeled whole or cut kiwifruit pieces comprising:

- 25 (a) selecting ripe kiwifruit with a pH of 3.2 to 4.0, soluble solids of 12 to 17%, and bright green color, white core, opaque pericarp and typical fresh, ripe kiwifruit flavor;
- (b) cooling the selected whole, fresh, unpeeled, ripe kiwifruit to a temperature between 1 and 6°C in a refrigerated room;
- 30 (c) treating the cooled whole, fresh, unpeeled, ripe kiwifruit with a nitrogen gas until the headspace in the room has an oxygen content of 1% or less;
- (d) after nitrogen gas pretreatment, peeling the kiwifruit in a manner which avoids significant bruising to the outer pericarp of the ripe kiwifruit; and
- 35 (e) placing the treated kiwifruit in sealed plastic packages (MAP packages) which have suitable gas transmission rates that ensure the

attainment of high CO₂ levels (13 to 20%) and low O₂ levels (0.5 to 3%) in the headspaces after 20 days of storage at 0 to 6°C (preferably 1 to 3°C).

5 13. A process as claimed in claim 12 wherein the ripe kiwifruit is contained in closed containers and the nitrogen gas is introduced into the kiwifruit-containing closed container as a continuous gas flow or as a gas flush, and after nitrogen gas pretreatment, the kiwifruit is peeled manually or mechanically by sharp blades, and if necessary the kiwifruit is cut into pieces, and the packages are semi-rigid, plastic
10 14. A process as claimed in claim 13 wherein the semi-rigid package is constructed of a high gas barrier plastic and the top web plastic film has an oxygen gas transmission rate between 3000 and 4500 cm₃ per m₂ per 24 hrs. @ 25°C at 1 atm.

15 15. A process as claimed in claim 13 wherein the sealed package of kiwifruit contains a ratio of kiwifruit gram mass to total package cubic centimeter volume of between about 0.3 to 0.5.

20 16. A process as claimed in claim 13 wherein the headspace gas composition of the sealed package of kiwifruit after 20 days of storage at 0 to 6°C is between about 13 to 20% carbon dioxide and about 0.5 to 3.0% oxygen.